

REMARKS:

- 1) In accordance with the PCT procedures, the original specification of this application was a direct literal translation of the foreign language text of the corresponding PCT International Application. The specification has now been amended in an editorial and formal manner, to better comply with typical US Application format requirements (e.g. with section headings, without reference to specific claim numbers in the description, and with proper form and content of the abstract). Also, a minor correction or improvement of the translation has been made, in that the original translated term "intake lining" (for the German term "Einlaufbelag" in the PCT International Application) has been replaced with the appropriate term of art --running-in lining-- or --abradable shroud lining--. A person of ordinary skill in the art would immediately understand that the invention relates to "an abradable shroud lining" as that term of art is typically understood, for example as described at pages 9 and 10 of the present specification in connection with Figs. 5 to 8, whereby the radially outer tips of rotor blades, which may be provided with labyrinth seal fins, graze and abrade into the abradable shroud lining. These editorial improvements of the translated text are supported by the substance and the context of the original disclosure, and do not introduce any new matter. Entry of the amendments is respectfully requested.
- 2) Further in accordance with the PCT procedures, the original claims of this application were a direct literal translation of

4953/WFP:he:ks

- 10 -

corresponding foreign language claims that were submitted in the PCT International Application. The claims have now been amended editorially to better conform to typical US claim style and drafting conventions. Also, independent claim 13 has been further limited by expressly reciting that the abradable shroud lining consists of a metal foam rigidly connected with at least one carrier, wherein the carrier has openings and the metal foam is open-pored so that both the carrier as well as the metal foam are through-flowable in a radial direction of the gas turbine, and wherein the metal foam is bare and directly exposed to the seal fins so that the seal fins graze into the metal foam. These features are supported by original Figs. 7 and 8, and the original written description at page 9 line 9 to page 10 line 27. Furthermore, new independent claim 17 has been drafted "from the ground up" as a fresh approach at covering inventive subject matter with a claim style, format and terminology somewhat different from the original translated PCT claims, namely in conformance with typical US claiming practices. New independent claim 17 is supported by prior claim 13, Figs. 7 and 8, and the written description at page 9 line 9 to page 10 line 27. For the above reasons, the claim amendments do not introduce any new matter. Entry and consideration thereof are respectfully requested.

- 3) Referring to the middle of page 2 of the Office Action, the objection to the disclosure has been addressed in the present amendment. Please withdraw the objection to the disclosure.

4) Referring to pages 2 and 3 of the Office Action, the rejection of claims 15 and 16 as being indefinite under 35 USC 112(2) is respectfully traversed. The unclear aspect noted by the Examiner has been avoided in the present amendment of claims 15 and 16. It is now expressly clear that the metal foam is rigidly connected with the carrier by being glued or soldered thereto. Thus, claims 15 and 16 each respectively recite a narrower or more-particular limitation of the general feature that the metal foam is rigidly connected with the carrier as recited in claim 13. Therefore, please withdraw the indefiniteness rejection of claims 15 and 16.

5) Referring to pages 3 and 4 of the Office Action, the rejection of claims 13 and 16 as anticipated by US Patent 6,412,541 (Roesler et al.) is respectfully traversed.

Contrary to currently amended independent claim 13, Roesler et al. do not disclose that both the carrier and the metal foam are through-flowable in a radial direction because the metal foam is open-pored and the carrier has openings therein for such a radial through-flow. For example, even in Fig. 6B of Roesler et al., the flow of gas must flow axially through the metal foam (9) through a U-turn pattern as necessitated by the locations of the holes (8). There is no direct radial through-flow through the carrier and the metal foam.

Furthermore, Roesler et al. do not disclose that the metal foam is bare and directly exposed to seal fins so that these seal fins graze into the metal foam. Instead, Roesler et al. generally provide a carrier as an enclosure on both opposite

sides of the metal foam (Fig. 4), or provide the carrier on one side and a protective layer (11) of a thermal barrier coating (TBC) on the other side (Figs. 5, 6A, 6B), for example see col. 5 line 6 to col. 6 line 60). Thus, as disclosed by Roesler et al., the metal foam of the component is not bare and directly exposed to the seal fins so that the seal fins can graze directly into the metal foam. Instead, the seal fins would contact and abrade against the carrier or the protective layer or thermal barrier coating (11, TBC).

For the above reasons, the present invention is not anticipated, and the Examiner is respectfully requested to withdraw the anticipation rejection applying Roesler et al.

- 6) Referring to pages 4 and 5 of the Office Action, the rejection of claims 14 and 15 as obvious over Roesler et al. in view of US Patent 6,062,813 (Halliwell et al.) is respectfully traversed. The Examiner has cited Halliwell et al. simply for disclosing a stepped contour of an abradable shroud liner. Halliwell et al. provide no pertinent teachings regarding a metal foam that should be bare and directly exposed to the seal fins at the tips of the rotor blades. Thus, even a combination of Halliwell et al. with Roesler et al. as discussed above would not have suggested the present inventive features of claim 13 as discussed above, because the teachings of the references, and no common sense or predictable result based on the references, would have given the ordinarily skilled artisan a reason to make modifications of Roesler et al. in the manner now required by the present invention. Claims 14 and 15 depend from claim 13, and are thus

also patentable. For these reasons, the Examiner is respectfully requested to withdraw the obviousness rejection applying Roesler et al. in view of Halliwell et al.

- 7) New independent claim 17 is also patentably distinguishable over the prior art. Similarly as discussed above in connection with claim 13, new claim 17 recites that the metal foam of the abradable shroud lining is bare and exposed and arranged relative to the rotor so that the seal fins directly graze the metal foam. Also, the metal foam is open-pored and the carrier has holes therein to allow a gas flow therethrough in a radial gas flow direction. As discussed above, the two prior art references do not disclose and would not have suggested such features. For these reasons, claim 17 is also patentable.
- 8) Favorable reconsideration and allowance of the application, including all present claims 13 to 17, are respectfully requested.

Respectfully submitted,

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Enclosures:  
Transmittal Cover Sheet  
Term Extension Request  
Form PTO-2038

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4953/WFF:he:ks

- 14 -